



Fox-Flo® UV Stable, LSZH Tie-on Cable Labels

Fox-Flo® is a special LSZH (Low Smoke, Zero-Halogen) material that we have developed to ensure the highest levels of durability.

The labels are both strong and flexible and can be attached using either standard nylon or stainless-steel cable ties.

Authorised for use for London Underground Limited projects. Suitable for any applications where LSZH is specified. Tested to the Fire Safety Performance of Material requirements of LUL 1-085.

TECHNICAL DATA

Material:	Fox-Flo®
Thickness:	1mm
RoHS:	Yes
Reach:	Yes

RIBBON

TSR3/300/25	✓
TSR3/300/60	✓
TSR3/300/100	✓
TSR4/300/60	✓
TSR5/300/60	✗

TESTING

Test	Tested	Yellow	White	Blue	Red
BS EN ISO 4589-2:1999 Oxygen Index	Material	✓	✓	✓	✓
BS 6853:1999 Annex D.8.3 Smoke Emission	Material	✓	✓	✓	✓
BS 6853:1999 Annex B.1 Toxic Fume	Material	✓	✓	✓	✓
EN 45545-2 R22	Material	✓			
Tested to UL 94 Section 8 'Vertical Burning Test' Rating VO	Material	✓	✓	✓	✓
IMO FTPC Part 2 Smoke & Toxicity	Material	✓	✓		
IMO FTPC Part 5 Surface Spread of Flames	Material	✓	✓		
MIL-STD-810F Method 502.4 Low Temperature 72 hours @ -40°C Followed by manipulation test*	Printed Label	✓	✓	✓	✓
MIL-STD-202G Method 108A High Temperature 2000 hours @ 70°C to 100°C**	Printed Label	✓	✓	✓	✓
H2S Sour Gas Exposure (2% H2S) Hydrogen Sulphide	Printed Label	✓	✓	✓	✓
ISO 4982 Part 3 Method A Cycle 1 UV Weathering 8000 hours	Printed Label	✓	✓	✓	✓
IEC60068-2-52 Test Kb Salt Mist (Cyclic) Salt Mist Spray	Printed Label	✓	✓	✓	✓
Chemical / Solvent Resistance	Printed Label	✓			

* Manipulation of the labels were performed at -40°C at completion of the low temperature test.
 ** Samples were subjected to 500 hrs @ 70°C , followed by 500hrs @ 85°C then 1000 hrs @ 100°C



Features & Benefits

- Easy to use and apply
- Pre-perforated for rapid removal from roll
- Apply to any cable from OD Ø 10mm - unlimited
- Choice of colours and sizes

Approvals

- Authorised for use by London Underground Registration No. 1707
- Tested to the Fire Safety Performance of Material requirements of LUL 1-085.



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Product Testing

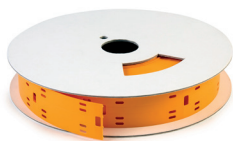
CHEMICAL/SOLVENT RESISTANCE:

Samples of Silver Fox Fox-Flo® labels were printed* at medium speed at medium temperature with Silver Fox DTP-1 thermal printer and TSR3/300 thermal transfer ribbons. Samples were then conditioned for 24 hours at room temperature. In-house testing consisted of 5 cycles of 10-minute immersions in the specified chemical/solvent followed by a 30-minute recovery period. After the final immersion, the samples were then rubbed ten times with a cotton swab dipped in the test fluid. Visual observations on the print quality are listed in the table right:

Features & Benefits

Print in conjunction with our Fox-in-a-Box® Plug'N'Play thermal printer using the same ribbon as all our other thermal labels.

- One** Software
- One** Printer
- One** Ribbon



Chemical/Solvent	No Rub	After Rub
Methyl Ethyl Keytone (MEK)	No Effect	Loss of Legibility
Isopropyl Alcohol	No Effect	No Effect
Toluene	Loss of Legibility	Complete Removal
Jet Fuel	No Effect	Complete Removal
Diesel	No Effect	No Effect
Petrol (UK)	Loss of Legibility	Complete Removal
SAE 30 Oil	No Effect	No Effect
De-ionised Water	No Effect	No Effect
3% Alconox® Detergent	No Effect	No Effect
10% Hydrochloric Acid	No Effect	No Effect
10% NaCl Salt Solution	No Effect	No Effect
Mineral Spirits	No Effect	No Effect
Alcohol Mix	No Effect	No Effect
10% Sodium Hydroxide Solution	No Effect	No Effect
DOT 4 Brake Fluid	Loss of Legibility	Complete Removal
Mineralised Methylated Spirit	No Effect	No Effect
Ethylene Glycol	No Effect	No Effect
WD-40	No Effect	Loss of Density
Turpentine Substitute	No Effect	Loss of Density

Following the above test and using the same procedure, further samples of Silver Fox Fox-Flo® labels were printed* at standard speed at maximum temperature. Visual observations on the print quality are listed in the table below:

Chemical/Solvent	No Rub	After Rub
Methyl Ethyl Keytone (MEK)	No Effect	Loss of Density
Toluene	No Effect	Complete Removal
Jet Fuel	No Effect	No Effect
Petrol (UK)	No Effect	Complete Removal
DOT 4 Brake Fluid	No Effect	Loss of Density

*Tested in-house on yellow Fox-Flo labels



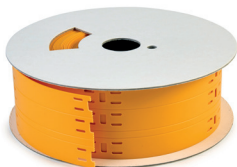
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Additional Information

The material we chose for our Fox-Flo® range of tie-on labels is the best we could find. This in turn means when you choose Fox-Flo® the performance you expect is the performance you achieve. For added confidence ALL the colours in the Fox-Flo® range have been tested according to the requirements of LUL1-085; BS EN ISO 4589-2:1999 Oxygen Index, BS 6853:1999 Annex D.8.3 Smoke Emission, BS 6853:1999 Annex B.1 Toxic Fume and also tested to UL 94 Section 8 - Vertical Burning Test.

Fox-Flo® final printed labels have been successfully independantly & (non-destructively) tested for 8000 hours accelerated UV ageing according to ISO 4982 Part 3 Method A cycle 1. This roughly equates to 12 - 15 years Northern European climate and 7 - 8 years Tropical regions.

Apart from being approved for use on London Underground these labels are also tested according to IMO and so are perfect for use in offshore oil and gas and marine environments.



ORDER INFORMATION

Product Code	Label Dimensions (mm)	Labels per roll	Rolls per pack	Labels per pack	Colours*
LCLZ2-5010T*	50 x 10	750	3	2250	Yellow, White, Green
LCLZ2-7010T*	70 x 10	550	3	1650	Yellow, White, Green
LCLZ1-5015T*	50 x 15	160	5	800	Yellow, White, Blue, Red, Orange, Pink, Green
LCLZ3-5015T*	50 x 15	480	2	960	Yellow
LCLZ1-7015T*	70 x 15	150	5	750	Yellow, White, Blue, Red, Orange, Pink, Green
LCLZ3-7015T*	70 x 15	450	2	900	Yellow
LCLZ1-9015T*	90 x 15	140	5	700	Yellow, White, Blue, Red, Orange, Pink, Green
LCLZ3-9015T*	90 x 15	420	2	840	Yellow
LCLZ1-11015T*	110 x 15	120	5	600	Yellow, White, Blue, Red, Orange, Pink, Green
LCLZ3-11015T*	110 x 15	360	2	720	Yellow
LCLZ1-13015T*	130 x 15	100	5	500	Yellow, White
LCLZ3-13015T*	130 x 15	100	6	600	Yellow
LCLZ1-5025T*	50 x 25	160	3	480	Yellow, White, Blue, Red, Green
LCLZ1-7025T*	70 x 25	150	3	450	Yellow, White, Blue, Red, Green
LCLZ1-9025T*	90 x 25	140	3	420	Yellow, White, Blue, Red, Green
LCLZ1-11025T*	110 x 25	120	3	360	Yellow, White, Blue, Red, Green
LCLZ1-13025T*	130 x 25	100	3	300	Yellow
LCLZ1-7050T*	70 x 50	150	2	300	Yellow
LCLZ1-9050T*	90 x 50	140	2	280	Yellow
LCLZ1-11050T*	110 x 50	120	2	240	Yellow
LCLZ1-13050T*	130 x 50	100	2	200	Yellow

STORAGE INSTRUCTIONS

Storage Instructions	Store between 50°F (10°C) and 77°F (25°C)
Conditions	Keep in dark conditions
Humidity Resistance	35% to 65% RH

Disclaimer: The information contained in this datasheet is based on data we believe to be reliable and is given for information only and without guarantee and does not constitute a warranty. We are not able to anticipate every set of conditions, so always suggest that users should also satisfy themselves as to the suitability of our products for their particular environment and application and not make any assumptions based on information in this data sheet that is included or omitted. This datasheet supersedes any previous information/datasheet released and is subject to change without notice.

* Specify colour when ordering Please note: colours shown are for indicative purposes only and do not represent the actual colour of the label.